draft

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Comments on BASF CMI for Lot 1102, Cranston RI dated September 8 2017

October 26, 2017

GENERAL COMMENTS:

1. It is not clear exactly what is being requested from EPA pertaining to the PCBs at the site. That is, the authority for the proposed PCB remedial work is not clearly specified. See specific comments below (e.g., #2, #10, etc).
2. Justification of proposed remedial plan focuses primarily on state requirements rather than federal TSCA requirements wrt PCBs. Plan needs to be revised explain how compliance with federal TSCA requirements is being achieved.
3. Information on historical information is discussed in general, but needs to be more fully integrated into this plan wrt current site conditions, including previously submitted documents pertaining to calculation of PCB cleanup level for the site (i.e., 95th UCL calcs). Throughout this document there is reference to both 10 ppm and 25 ppm for the PCB cleanup standard. It is not clearly discussed as to the difference of what is currently proposed for PCB cleanup compared to what was originally proposed.

SPECIFIC COMMENTS:

1. Page 2. It is stated on pages 2 that a separate CMI will be prepared for the groundwater remediation that will include ISCO. Thus, any EPA approval for this plan will only pertain to soil with exclusion of the groundwater. For the groundwater CMI, please ensure that it includes a discussion of other sites where ISCO has been used successfully to treat PCBs in groundwater.

2. Page 3. Final Remedial Activities.

    a. The 1st bullet should be modified to clarify that the engineered cap would be installed over all areas where > 10 ppm but < 25 ppm PCB-contaminated soils remain.
    b. 1st bullet. It is not clear how the proposed cap, which would include 2-feet of clean soil with a permeable geotextile meets the requirements for an "engineered cap". Generally, EPA considers that such a cap should be impermeable. Is this term defined by RIDEM with this construct?
    c. 2nd bullet. There is reference to the 2' clean soil cover or equivalent, as a RIDEM-approved soil cover. As indicated in General Comment 1, compliance with 40 CFR Part 761 would also be required. How/why does this soil cover meet the federal PCB requirements?
    d. 4th. It is not clear what "warning signage" requirements are referenced here for the federal PCB requirements. Depending upon PCB concentrations remaining at a site and

the institutional controls, the PCB regulations do have specific "marking" requirements (see 761.61(a)(4)).

3. Page 4. Groundwater. 2nd bullet. It is indicated that ISCO will be used to address all COC mobility, including dissolved-phase PCB impacts. There is inconsistency in this document as it relates to why/how ISCO will be used. In later sections, it is indicated that ISCO will be used to treat VOCs in groundwater, not PCBs, and that outside of the TP-5, PCBs were not identified above regulatory standards in groundwater. (also see Comment 12).

4. Page 8. 1995 IRM. There is reference to 10 samples remaining following the excavation, where PCBs > 45 ppm remain. In reviewing the referenced figures, EPA was unable to distinguish exactly where these 10 samples were. These locations should be clearly identified here for ease of EPA reference and review.

5. Page 8. 1995 IRM. It is indicated that a "minimum 12-inch clean fill was constructed following soil removal. Given that multiple excavations were conducted, and the fact that these areas will require additional excavation to achieve the proposed < 25 ppm cleanup standard, the depth of removal in each of areas addressed in the 1995 IRM with the final depth of clean backfill should be provided for clarity.

6. Page 8. 1996 GW Treatment System. There is reference to groundwater MPS, but these are not clearly provided here. EPA found reference to certain MPS on pages 9 and 10, but PCBs were not included. Was an MPS developed for PCBs in groundwater and river sediments?

7. Page 9. 1st paragraph. What was the basis for the conclusion that air spargiing and soil vapor extraction could not achieve compliance throughout the impacted aquifer volume?

8. Page 11. May 2017 Subsurface Investigation

    a. In the first paragraph it is stated that 6 test pits were completed in "clean" areas to observe subsurface conditions. Please define "clean".

    b. During the test pitting program, underlying concrete and/or asphalt samples were not collected. This appears to represent a significant data gap for any PCB work going forward. While it is later indicated that the concrete/asphalt were not sampled because it was not included in the scope of work (Appendix A), given that some of the concrete showed "staining", if EPA had been contacted, we would have strongly recommended that samples be collected to support the current proposed work.

9. Page 12. The 4th paragraph is incomplete as it ends with "Nature and Extent of Contamination".

10. Page 13. Section 2.4.1. There is no discussion as to how the proposed remedial objective elements will meet the federal PCB requirements under 761.61. 40 CFR 761.61(a)(7) specifies the cap design for in-place disposal of PCBs > 1 ppm. Both caps as described likely do not meet

those requirements. Thus, EPA would need to consider these alternative caps under 761.61(c). EPA requirements and how compliance will be achieved should be clearly discussed in this document. Also need to see pg. 20/21 section ~~3.2.1.5~~ 3.2.2 of plan for cap discussion

11. Page 14. For soil, the term "shallow" is used inconsistently, as it has been used to apply to both less than and greater than 2-feet bgs soils. For Section 2.4.2., 3rd paragraph, it is thus not clear what is meant by "shallow" soils. For example, if PCB concentrations are at 15 ppm at 5 feet, but at 5 ppm from 1 to 4 feet, it is unclear what type of cap would be constructed. Clarification is requested

12. Page 14. In Section 2.4.3, it is indicated that ISCO would be used to reduce VOC concentrations in groundwater. However, it had previously been indicated that ISCO would also be used to treat PCBs.

13. Page 16. 1st full paragraph. It is indicated that an engineered cap will be placed over impacted soil with PCBs < 25 ppm. This statement is inconsistent with previous text indicating that the engineered cap would be placed over PCBs with > 10 ppm.

14. Page 16. Section 3.2.1.2.

    a. EPA does not understand why there is a distinction between Soil Type 2B and 2C in terms of off-site disposal since both require off-site disposal in a TSCA-permitted disposal facility or a RCRA hazardous waste landfill (see 761.61(a)(5)(i)(B)(2)(iii).

    b. For purposes of segregation and off-site disposal (Soil Types 1C and 2A as compared to Soil Types 2B and 2C, based on the information provided, EPA cannot determine if sufficient data exists to support segregation and off-site disposal of < 50 ppm PCB-contaminated wastes to a state-permitted landfill. It is also not clear if a different disposal is proposed, but if so, the proposed excavation plan will need to be clearly defined and reviewed by EPA for a determination on the adequacy of the data for disposal purposes.

15. Page 17. As previously indicated in Comment 5, above, it is unclear how the 1 to 2 feet of "clean" soil can be distinguished from soil that may be contaminated. If soil is in direct contact with contaminated soil, it would be considered to be contaminated unless it can be proven otherwise. I could not find the contract drawings that were cited in the 4th paragraph to clarify how this segregation as discussed in this paragraph is supported and can be achieved.

16. Page 18. Section 3.2.1.4.

    a. It appears to indicate that the concrete slabs and/or other debris will be removed if it limit access to PCB-contaminated soil. If the concrete and/or asphalt has PCB concentrations > than the soil PCB cleanup standard, it would need to be removed. In addition, the sampling must be conducted in-situ, not above removal and size following

consolidation. As written, the proposed plan for the concrete and asphalt cannot be approved.

b. For re-use of concrete, an explanation of the 1-foot below the final grade location for crushed concrete is needed. If the concrete contains > 1 ppm PCBs, the 1-foot below final grade does not make sense and would be inconsistent with the requirements for PCB-contaminated soil.
c. With respect to recycling of metal, if the metal is located within a contaminated area, the metal must be decontaminated for recycling unless it is to be disposed in accordance with 40 CFR Part 761. Thus, if recycling is to be an option, a decontamination provision must be incorporated into this plan.

17. Page 18. Section 3.2.1.5. If water contains > 0.5 ppb PCBs, it would be regulated for disposal under 40 CFR Part 761. Please provide documentation to support that Tradebe is able to transport and manage such waste to its Stoughton facility. EPA also requests clarification on how the PCB-contaminated water would be disposed of if PCB concentrations are > 0.5 ppb.

18. Page 19. Section 3.2.1.6.

    a. For PCBs, the stockpiling requirements under 761.65(c)(9) would apply. As written, it is unclear if these requirements would be met.
    b. Please define what is meant by "non-hazardous PCB containing soils".
    c. 2nd paragraph. The first sentence states in part "...are expected to be shipped via truck to a licensed off-Site disposal facility, as detailed above.". There is no discussion in the previous paragraph regarding shipment to a disposal facility. Please clarify what section this refers to.
    d. 2nd vs 3rd paragraph. Disposal of soil with PCBs is confusing. On page 17, it was indicated that PCB-contaminated soil removed from the Site would be disposed at Emelle or US Ecology. As written, these 2 paragraphs imply otherwise. Please clarify.

19. Page 19. Section 3.2.1.7. It is stated in the first paragraph "The points of compliance for soils will be defined at the extent of each excavation area." Please clarify what this means. (e.g., will post-excavation samples be collected both within (sidewalls and bottom) and along the perimeter of the excavation, etc?)

20. Page 20.

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    a. 2nd bullet. Field screening may be used to provide qualitative information about PCB concentrations, but it may not be used for waste segregation or for determining if a PCB cleanup standard has been achieved. Fixed lab analysis would be required for both these defined activities.
    b. 3rd bullet. While the proposed PCB soil removal standard is 25 ppm, there is also a 10 ppm PCB cleanup standard to be achieved based on the 95% UCL. This is not clear in this bullet and thus is misleading to the reader.

21. Page 20. 1st paragraph. Please see Comment 19 pertaining to sidewall sampling for PCBs.

22. Page 20. Section 3.2.1.8. Please provide PCB data referenced in this paragraph for the stockpiled soil and the excess grading material that will be used as backfill. This PCB data should represent in situ PCB concentrations prior to stockpiling and/or soil grading to support PCB concentrations are < 10 ppm.

23. Page 21. 1st incomplete paragraph. It is indicated that soil with > 1 ppm PCBs will be removed within the FEMA floodway. Excavation of certain locations in the Floodway is shown on Figure 21. However, there appear to be data gaps (i.e., no samples collected) in a large portion of this area. Based on this, how was it determined that if the identified areas were removed that this would results in PCB concentration < 1 ppm across the floodway?

24. Page 21 (2nd) complete paragraph. Has FEMA approved the floodway plan?

25. Page 22. Section 3.2.4.1. The saturation zone is at approximately 6 ftbgs. How deep into the saturation zone will the mixing occur?

26. Page 23. Section 3.2.4.2. The schedule (Table 2) indicates that the pilot will run several months. How will the pilot success be measured? Is there a contingency in the event the pilot test criteria are not met? There is also reference to "dissolved-phase PCBs". If PCBs are present at > 0.5 ppb (regulated under 40 CFR Part 761), EPA approval of the ISCO treatment for PCBs would also be required. Are PCBs present in the dissolved phase at concentrations > 0.5 ppb? Also see Specific Comment 3.

27. Page 25. Is there any plan to provide notice to the community of this current proposed work? (including soil removal by 2017.)

28. Page 27. Need to check C4 and C5 drawings (VT only)

29. Page 31. no Will monitoring wells located within excavation areas be replaced?

30. Page 31. 2nd paragraph. As previously indicated, concrete will need to be sampled in situ if there are concerns about PCB contamination. With respect to the "minimum of 3 concrete samples", it is unclear what this means and at what point more than 3 samples would be collected. There is no discussion of asphalt which was previously mentioned. There is no mention of sampling of metals that would be encountered during soil excavations.

31. Page 31. 4th paragraph. Technical Spec 31 70 00 Requirements for Imported Soil does not include PCB sampling.

32. Page 31. Section 4.5.4. As previously indicated, PCB-contaminated soil for off-site disposal was to go to Emelle or US Ecology. In this section, it appears to indicate that contaminated materials may be segregated for disposal.

33. Page 32. Section 4.6. Last paragraph. For the ISCO, there is only reference to VOC analysis, not PCBs. As such, if ISCO is not needed for PCBs, this should be clarified throughout document. Otherwise, PCB analysis of groundwater would be required for ISCO closeout.

34. Page 33. It is indicated that th sand cap will be sampled for PCBs. It is not clear to the TSCA Program, what levels of PCBs were "capped" in the river, nor that the proposed criteria of 1 ppm is appropriate for determining PCBs are not permeating the cap?

how much left in sediments?

35. Figure 21. The title of this figure is "Alternative Remedial Approval (PCB Removal > 25 ppm). However, this figure also shows excavation in the floodway which is removal of PCBs > 1 ppm.

36. Appendix A.

    a. Please clarify if Figure 1 represents all identified PCB concentrations currently present on Lot 1102. Is there a single data table with all of these results, including the test pits results?
    b. It was indicated in the CMI that PCB concentrations up to 118000 ppm were identified in the TP-5 area. Figure 1 does not show this same information.
    c. During the test pit sampling, EPA is unclear on how soil was segregated for either placement back into the test pit or for disposal. For example, in the TP-5 area, PCB concentrations were well over 100,000 ppm and previous data showed well below that. Thus, if the segregation was based on prior data, it appears that PCB concentrations over 50 ppm could have been placed back into the test pit. Is this correct?
    d. As previously indicated, EPA would have recommended that concrete and/or other underlying material be sampled for PCBs if encountered during the test pitting as this appears to represent a substantive data gap for implementation of this proposed plan.

pg 3

37. Appendix B.

    a. page 3. For the groundwater, it I indicated that AEI believes the PCB contamination in the groundwater is co-located with higher PCB contamination soil in part due to non-detect of PCBs in MW-31S and 31D. PCB congeners (not Aroclors) were present in MW-2S at 0.14 ppb, which could potentially be attributable to higher PCB concentrations in the TP-5 area, but this was not noted in this discussion nor is it clear that the area surrounding MW-2S will be excavated. Thus, sampling of wells remaining (post-excavation) for PCB congeners may be necessary to confirm if the soil excavation reduced PCB concentrations in groundwater.

    b. Are the references for 2016(a) versus 2016(b) reversed? See pages 9-10 of the plan.

38. Appendix C.

a. Page 1. Soil Item 1. As previously discussed, BASF has indicated that removal of > 25 ppm PCB-contaminated soil will result in a 95% UCL of 10 ppm. As written, this line item does not indicate this, but rather infers the "cleanup standard" is 25 ppm PCBs.

b. Page 1. BASF has not adequately captured what would happen if PCB concentrations in the underlying concrete are > 25 ppm or even > 10 ppm.

c. Page 1. Item 2. There was no mention in the plan about use of an HDPE.

d. Page 2. References at bottom. Please confirm 2016(a) and 2016(b) are correct.

e. Figures 3B thru 3D. Please clarify what the "red" points represent.

f. Figures.

i. ~~Figures 9-12. Certain sample locations are shown in green, while other are~~ leave/okay shown in either white or yellow. Please clarify what these colors represent. EPA assumes that some of these points were excavated based on the data tables. If so, this should be clearly designate on each figures. see footer

ii. All figures need to be reviewed for accuracy and consistency. For example, along the western boundary, PCB concentrations > 50 ppm appear to be shown on Figures 13 and 14, but not on Figure 21 or on Figures 9-12; and, Figure 14 does not show PCB concentrations > 50 ppm in the TP-5 area. Similar issues were noted for sample locations M60 and G280. Thus, it is not clear what current site data is and/or what figures are accurate based on the information presented.

39. Appendix D.

a. Page 1. Background. It is indicated in paragraph 2 that the engineered cap would be placed where PCB concentrations > 25 ppm.

b. Section 2.1.2. The discussion pertains only to construction of the caps in accordance with RIDEM and not federal requirements. The SMP must also comply with TSCA, not just RIDEM.

c. Page 5. Section 2.2.1, 1st and 2nd paragraphs. It is indicated that capped/covered areas will include areas where PCBs concentrations in "surface" soil are > 1 ppm. Why just surface soil? The federal PCB regulations cover PCB concentrations are depth, not just surface, regardless of whether high or low occupancy. If PCBs > 1 ppm remain at depth, those PCBs will need to be addressed in this plan.

40. Appendix E. Contract Specis.

a. 01-72-10-5. With respect to recycling and reuse, items listed could contain PCBs, especially if located at or below grade and/or in contact with soil. EPA assumes that this

section was not intended to allow recycling of such materials without testing and/or decontamination.

b. 02-30-10.
   i. Concrete located on the site and in contact with PCB-contaminated soil must be characterized in situ, not after crushing.
   ii. It is unclear what is meant by "average" contaminant concentration level for on-site reuse. The same requirements for soil would apply to concrete under 40 CFR part 761.

c. 02-30-80. See comment above regarding concrete. Any metal piping would also have to be tested and/or decontaminated prior to abandonment in place and/or recycling.

d. 31-60-05.

   i. Page 1. Type 1A soils were not identified in the plan. As they are mentioned here, EPA would recommend inclusion within the plan. Further, it should also be clarified that PCB concentrations in such soil must be < 1 ppm.
   ii. Page 2. Type 1B soils. There is inference that Type B soils may be blended with other type soils, which could include Type 1A soils. In this event, EPA would consider any concentration in the blended soil to be the highest PCB concentration that was blended. For example, if 9 ppm soil was mixed with < 1 ppm PCB soil resulting in a PCB concentration < 1 ppm, EPA would still consider the blended soil to contain 9 ppm PCBs.
   iii. Type 2A. There is no discussion in the plan about segregation of > 25 ppm but < 50 ppm PCB soil for off-site disposal. It is indicated in the plan that PCB-contaminated soil would be sent to either Emelle or US Ecology.
   iv. It is unclear how/why Type 2B and Type 2C soils are needed since these concentrations would ultimately end up at the same facility.
   v. Type 3 was not discussed in the plan.
   vi. EPA will need to review the contractor's excavation plan if any segregation of soil is proposed either vertically or horizontally for on-site or off-site disposal/reuse.

e. 31-60-40-5. Dry decontamination procedures are not consistent with requirements under 40 CFR 761.79(c). Further, given the high PCB concentrations to be excavated, EPA does not believe that dry decontamination procedures are best. However, if this is preferred by the contractor, EPA will require sampling to confirm PCB concentrations on equipment is below the decontamination standards specified in 761.79(b).

f. 31-62-75. PCB stockpiling requirements as specified under 761.65(c)(9) would also apply if soils are stockpiled rather than live-loaded for off-site disposal.

g. 31-70-00-3. PCB sampling on soil imported for backfill is not proposed. Is this correct?

h. 31-80-00.

i. There is reference only to RIDEM GW Quality Rules, but not 40 CFR Part 761. Please confirm that the standard for PCBs under the RIDEM Rules is < 0.5 ppb.
ii. Throughout this spec there is only discussion of dewatering with exception of Section 1.06, which refers to the dewatering and treatment system. Please clarify if on-site treatment would be acceptable is proposed by the contractor.
iii. Page 6. Decon of field equipment will need to comply with 40 CFR 761.79, which include the dewatering system equipment.

i. 32-30-20. See previous comments above regarding compliance with 40 CFR 761.79 for decontamination of field equipment.

41. Appendix G. The ELUR will need to reference federal PCB regs/requirements. Currently only refers to RIDEM.

42. Appendix H.

A page 1. 1st bullet - clarification on capping is needed. As written appears to be inconsistent w/ P8 2012.1 $3.2.2

a. Page 1. Last paragraph. There is reference to a 2-foot soil cap. However, in the plan there is an indication that gravel may be used in lieu of soil.
b. Page 2. 7th paragraph. Any excess soil generated from the property must be disposed of based on existing concentrations, not concentrations in the accumulated rolloff. This is not clearly stated.
c. Page 3. Any soil removed from the site must be < 1 ppm PCBs to be used off-site. There is no automatic allowance under 40 CFR Part 761 for reuse of soil with PCB concentrations > 1 ppm in any other manner without authorization from EPA under 761.61(c).
d. It is not clearly stated in this SMP that if soil is disturbed or excavated that the required clean cover would be re-established per the plan approved by EPA & RIDEM.

43. Appendix J. In reviewing the inspection form, it is not clearly shown if the inspector would look at the soil and/or gravel depth to ensure that the required 2-foot depth minimum (or other approved cover depth) remains in place.

44. Appendix K. The air monitoring limits appear to really reflect worker exposure limits. Given the proximity of this site to nearby residents, support of these levels for air monitoring criteria is required. NAAQS 150 $\mu g/m^3$